UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,465	03/24/2004	Guenther H. Ruhe	003-57	2920

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EXAMINER
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2192	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/807,465	RUHE, GUENTHER H.
	Examiner	Art Unit	
	Ben C. Wang	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>24 March 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-22</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-22</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>11/01/2004</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 08-06)   Office Action Summary   Part of Paper No./Mail Date 20070416

DETAILED ACTION

1.   Claims 1-22 are pending in this application and presented for examination.

Drawing Objections

2.   The drawing is objected to because the following informalities:

- The 2nd label of "132" pointed to "Order Management" and 3rd label of "132" pointed to "Billings", cited in Fig. 13, should be corrected as the label of "134" and the label of "136" respectively

- The label of "145, cited in Fig. 14, should be corrected to point to the element of "orders"

Appropriate correction is required.

Claim Objections

The claim is objected to because the following informalities:

3.   Claims 19-20 are objected to because the following informalities:

- "where different use cases are predefined", cited in claim 19, line 1, should be corrected as "where different use cases are predefined."

- "A method of claim 21", cited in claim 20, line 1, should be corrected as "A method of claim 1"

Appropriate correction is required.

Claim Rejections – 35 USC § 102(a)

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(a)

that form the basis for the rejections under this section made in this office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4.   Claims 1-3 and 8-20 are rejected under 35 U.S.C. 102(a) as being

anticipated by G. Ruhe/D. Greer (*Quantitative Studies in Software Release*

Planning Under Risk Resource Constraints, Oct., 2003, IEEE) (hereinafter 'Ruhe-

Greer').

5.   **As to claim 1**, Ruhe-Greer discloses a method of release planning, the

method comprising the steps of: assigning stakeholder priorities to a set of

requirements, where the priorities are assigned by plural stakeholders (Sec. 1, 4th

Para., Lines 6-7; Sec. 2.1, 1st Para., Lines 7-11); explicitly defining a set of

constraints on the requirements (Sec. 1, 4th Para., Lines 10-16, 6th Para., Lines

1-10; Sec. 2, 1st Para., Lines 1-4; Sec. 2.3); using algorithms carried out by a

computer (Sec. 1, 5th Para., Lines 5-10, 6th Para., Lines 1-10; Sec. 3.2, 1st Para.,

Lines 1-4), exploring release plan solutions that satisfy the constraints and

balance between stakeholder priorities of different stakeholders to generate a set

of candidate release plan solutions that have a positive impact on at least one of

project time, overall cost and quality (Sec. 2.6; Fig. 1 – EVOLVE+ approach to

assign requirements to increments; Sec. 3.1, 1st Para., 2nd Para.); and selecting

at least one release plan solution from the set of candidate release plan solutions

(Sec. 1, 6th Para., Lines 1-10).

6. **As to claim 2** (incorporating the rejection in claim 1), Ruhe-Greer

discloses the method in which operating on the stakeholder priorities with

algorithms using a computer is carried out repeatedly after changing one or more

of the constraints, requirements or stakeholder priorities (Sec. 3.1, 4th Para., 5th

Para.).

7. **As to claim 3** (incorporating the rejection in claim 1), Ruhe-Greer

discloses the method in which a set of release plan solutions is generated and

the solution set is further qualified by applying a concordance/non-discordance

principle (Sec. 2.6, 3rd Para.).

8. **As to claim 8** (incorporating the rejection in claim 2), Ruhe-Greer

discloses the method in which changing the requirements comprises actions from

a group consisting of: adding additional requirements (Sec. 1, 3rd Para., Lines 1-

19); removing existing requirements (Sec. 1, 4th Para., Lines 10-16); modifying

existing requirements (Sec. 2.2, 1st Para., Lines 5-7); and adjusting stakeholder

priorities (Sec. 2.1, 1st Para., Lines 7-11).

9.   **As to claim 9** (incorporating the rejection in claim 2), Ruhe-Greer

discloses the method further comprising the step of assigning the requirements

to one of the next release, the next but one release, or unassigned (Sec. 1, 3rd

Para., Lines 1-19, 4th Para., Lines 10-16).

10.   **As to claim 10** (incorporating the rejection in claim 9), Ruhe-Greer

discloses the method in which repeating the step of operating on the stakeholder

priorities or value estimates with the algorithms comprises using the unassigned

requirements as the requirements in the repeated step (Sec. 3.1, 1st Para.; Sec.

4.1, 6th Para.).

11.   **As to claim 11** (incorporating the rejection in claim 1), Ruhe-Greer

discloses the method in which selecting a release plan solution from the set of

candidate release plan solutions is carried out by a problem solver (Sec. 1, 2nd

Para., Lines 10-14).

12.   **As to claim 12** (incorporating the rejection in claim 1), Ruhe-Greer

discloses the method in which the method is carried out through a hybrid

approach integrating computational intelligence and human intelligence (Sec. 1,

2nd Para., Lines 10-14).

13.   **As to claim 13** (incorporating the rejection in claim 1), Ruhe-Greer

discloses the method in which the set of constraints is chosen from a group

consisting of precedence relationships between requirements, coupling

relationships between requirements, effort, resource, budget, risk, and time (Sec.

2, 1st Para., Lines 1-4).

14.   **As to claim 14** (incorporating the rejection in claim 1), Ruhe-Greer

discloses the method in which stakeholder priorities are represented by a

numerical value representing stakeholder satisfaction that a requirement be

assigned to one of three categories, the categories consisting of the next release,

the next but one release, and postponed (Sec. 2.1, 2nd Para. through 4th Para.).

15.   **As to claim 15** (incorporating the rejection in claim 1), Ruhe-Greer

discloses the method in which the requirements are grouped into groups of

requirements (Sec. 1, 4th Para., Lines 6-7, 12-14) and the algorithms balance

between stakeholder priorities assigned to the groups of requirements (Sec. 5,

4th Para.).

16.   **As to claim 16** (incorporating the rejection in claim 1), Ruhe-Greer

discloses the method in which stakeholders prioritize subsets of the complete set

of requirements (Sec. 2.6, 3rd Para.).

17.   **As to claim 17** (incorporating the rejection in claim 1), Ruhe-Greer

discloses the method further comprising providing on demand an answer to

questions chosen from a group of questions consisting of: why requirements are

assigned to a certain release (Sec. 1, 4th Para., Lines 12-14); why requirements

are not assigned to a certain release (Sec. 1, 4th Para., Lines 14-16); which are

commonalities in the proposed solutions; and which are differences in the

proposed solutions (Sec. 3.2, 1st Para.).

18.   **As to claim 18** (incorporating the rejection in claim 1), Ruhe-Greer

discloses the method where a set of near optimal and maximally distinct

alternative release plan solutions is generated (Abstract, Lines 26-32; Sec. 2.5,

2nd Para., 3rd Para.).

19.   **As to claim 19** (incorporating the rejection in claim 1), Ruhe-Greer

discloses the method where different use cases are predefined (Sec. 5, 2nd

Para., Lines 4-13).

20.   **As to claim 20** (incorporating the rejection in claim 1), Ruhe-Greer

discloses the method where process guidance is provided to perform the

scenario use cases (Abstract, Lines 7-32).

Claim Rejections – 35 USC § 103(a)

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as
> set forth in section 102 of this title, if the differences between the subject matter sought to be
> patented and the prior art are such that the subject matter as a whole would have been obvious at
> the time the invention was made to a person having ordinary skill in the art to which said subject

matter pertains. Patentability shall not be negatived by the manner in which the invention was
made.

21.   Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Ruhe-Greer in view of D. Greer/G. Ruhe (*Software Release Planning: an*

evolutionary and iterative approach, July, 2003, Elsevier B. V.) (hereinafter

'Greer-Ruhe')

22.   **As to claim 4** (incorporating the rejection in claim 3), Ruhe-Greer

discloses the method in which the algorithms comprise one or more of genetic

algorithms (Sec. 1, 5th Para., Lines 5-10) and integer programming algorithms

(Sec. 4.4.2, 2nd Para., Lines 1-4).

But Ruhe-Greer does not explicitly disclose heuristic algorithms.

However, in an analogous art of software release planning: an

evolutio0nary and iterative approach, Greer-Ruhe discloses heuristic algorithms

(References, [19]).

Therefore, it would have been obvious to one of ordinary skill in the art, at

the time the invention was made to combine the teachings of Greer-Ruhe into the

Ruhe-Greer's system to further provide heuristic algorithms in Ruhe-Greer

system.

The motivation is that it would further enhance the Ruhe-Greer's system

by taking, advancing and/or incorporating Greer-Ruhe system which offers

significant advantages for using *Palisade's RiskOptimizer*™ tool for ranking

requirements as once suggested by Greer-Ruhe (i.e., Sec. 3.3 of "Algorithms and tool support", 1st Para.;).

23.   **As to claim 5** (incorporating the rejection in claim 4), Ruhe-Greer discloses the method in which the algorithms use at least one objective function to evaluate release plan solutions (Sec. 3.1, 2nd Para.).

As to claim 6 (incorporating the rejection in claim 5), Ruhe-Greer discloses the method in which the objective function comprises an aggregation of stakeholder priorities or value estimates. (Sec. 2.6, items (1) – (6); Sec. 3.1, 2nd Para.).

24.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ruhe-Greer in view of Greer-Ruhe and further in view of J. Li/G. Ruhe (*Web-Based Decision Support for Software Release Planning, Oct., 2003, WSS 2003*) (hereinafter 'Li-Ruhe').

25.   **As to claim 7** (incorporating the rejection in claim 6), Ruhe-Greer discloses the method in which computation of the algorithms is carried out externally from an application service provider (Sec. 3.2, 1st Para., Lines 1-4).

But Ruhe-Greer and Greer-Ruhe do not explicitly disclose stakeholder priorities are input to the computer from remote locations.

However, in an analogous art of web-based decision support for software release planning, Li-Ruhe discloses stakeholder priorities are input to the

computer from remote locations (Fig. 3 – Architectural Design for Web-based

DSS for Release Planning; Sec. 1, 3rd Para.; Sec. 2, 5th Para., Bullet #2 –

Stakeholder involvement, Lines 17-19; Sec. 4, R4 and R5).

Therefore, it would have been obvious to one of ordinary skill in the art, at

the time the invention was made to combine the teachings of Li-Ruhe into the

Ruhe-Greer-Greer-Ruhe's system to further provide stakeholder priorities are

input to the computer from remote locations in Ruhe-Greer-Greer-Ruhe system.

The motivation is that it would further enhance the Ruhe-Greer-Greer-

Ruhe's system by taking, advancing and/or incorporating Li-Ruhe's system which

offers significant advantages for using web technology and services on intelligent

decision support for software release planning as once suggested by Li-Ruhe

(i.e., Abstract).

26.   Claim 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Ruhe-Greer in view of Li-Ruhe.

27.   **As to claim 21** (incorporating the rejection in claim 1), Ruhe-Greer does

not explicitly disclose a computer programmed to carry out the method steps of

claim 1.

However, in an analogous art of web-based decision support for software

release planning, Li-Ruhe discloses a computer programmed to carry out the

method steps of claim 1 (Sec. 2, 5th Para., 6th Para.).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teachings of Li-Ruhe into the Ruhe-Greer's system to further provide a computer programmed to carry out the method steps of claim 1 in Ruhe-Greer system.

The motivation is that it would further enhance the Ruhe-Greer's system by taking, advancing and/or incorporating Li-Ruhe's system which offers significant advantages for using web technology and services on intelligent decision support for software release planning as once suggested by Li-Ruhe (i.e., Abstract).

28.   **As to claim 22** (incorporating the rejection in claim 1), Ruhe-Greer does not explicitly disclose computer readable media containing instructions for a computer to carry out the method steps of claim 1.

However, in an analogous art of web-based decision support for software release planning, Li-Ruhe discloses computer readable media containing instructions for a computer to carry out the method steps of claim 1 (Sec. 2, 5th Para., 6th Para.).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teachings of Li-Ruhe into the Ruhe-Greer's system to further provide computer readable media containing instructions for a computer to carry out the method steps of claim 1 in Ruhe-Greer system.

The motivation is that it would further enhance the Ruhe-Greer's system by taking, advancing and/or incorporating Li-Ruhe's system which offers significant advantages for using web technology and services on intelligent decision support for software release planning as once suggested by Li-Ruhe (i.e., Abstract).
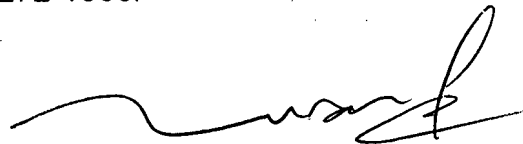
Conclusion

29.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ben C. Wang whose telephone number is 571-270-1240. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on 571-272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from

the Patent Application Information Retrieval (PAIR) system. Status information

for published applications may be obtained from either Private PAIR or Public

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Representative or access to the automated information system, call 800-786-

9199 (IN USA OR CANADA) or 571-272-1000.

TUAN DAM
SUPERVISORY PATENT EXAMINER

BCW

April 25, 2007